REMARKS

Claims 1 – 25 remain in the application. Claims 3 – 10, 14 – 17 and 21 – 25 are objected to. Claims 1, 2, 11 – 13 and 18 – 20 stand rejected. The rejection of the claims is respectfully traversed.

The Examiner asserts that claims 1 and 2 are unpatentable over Ibe et al. (U.S. Patent No. 6,437,804). The Examiner asserts that claims 11 – 13 and 18 – 20 are unpatentable over Ibe et al. in combination with Blainey et al., "Loop Allocation for Optimizing Compiler" under 35 U.S.C. §103(a). The rejection is respectfully traversed.

As a basis for rejecting claims 1 and 2, the Examiner asserts that, essentially, Ibe et al. teaches the invention as claimed. In particular, the Examiner asserts that Ibe et al. teaches "dominant **edges** (anchor **nodes**, col 2, ln 25-67/col 3, ln 38-47/col 6,ln 1-45/col 9, ln 1-67)," (emphasis provided). The Examiner does not indicate what would motivate someone to swap edges for nodes. The Examiner asserts that Ibe et al. teaches "a min cut solution (an optimally partitioned graph, col 9,ln 1-35/ the partition scheme, col 2, ln 25-67 to col 3, ln 1-45/ col *5,* ln 1-10/col 9, ln 1-67)." (sic) The Examiner did not indicate how dominant edges were excluded from the min cut solution. Finally, the Examiner did not find a teaching in Ibe et al. of step (d) of claim 1 of "placing task components responsive to said min cut solutions." For this step, the Examiner asserts that "Ibe teaches node represent the network device, edges which represent the links and automatically partitioning the graph into domains." (sic) From this, the Examiner concludes that it "would have been obvious to apply the teaching of Ibe in order to ensure that each agent has a fair share of the traffic."

Blainey et al. teaches "(l)oop allocation for optimizing compilers includes the generation of a program dependence graph for a source code segment." Abstract, lines 1 – 2. Further, an "interference graph is generated with the nodes of the data dependence graph." *Id*, line 4. In particular, weights are generated for both the nodes and the edges of the interference graph. *Id*, lines 4 – 7. For the edges, the weights reflect "the affinity

between statements represented by the nodes joined by the edges." *Id*, line 5. The nodes are weighted with "weights reflecting resource usage by the statements associated with the nodes." *Id*, line 7. Then, the "interference graph is partitioned using a profitability test based on the weights of edges and nodes and on a correctness test based on the reachability of nodes in the data dependence graph."

Ibe et al. teaches modeling a network as a graph, partitioning the graph, "assigning a weight to each node in the graph, and... balancing partitions as a function of the weight of each node in a respective partition." *See*, col. 2, lines 37 – 43. Ibe et al. types edges or links as normal, strong and weak (which are not included in any partition). *See*, col. 5, lines 47 – 51. However, this is not assigning weights to the edges Ibe et al. describes "identifying a number of anchor nodes in the graph and partitioning the domains around the anchor nodes such that each domain contains only one anchor node." Abstract, lines 6 – 9. "A node on which a control agent is attached is defined as an 'anchor node.'" Col. 6, lines 24 – 25. Although Ibe et al. does describe another embodiment that "includes partitioning a graph without anchor nodes into a number of domains," clearly, this includes all nodes in the graph without having anchor nodes identified. *See, e.g.*, col. 21, lines 37 – 43. Thus, all nodes are still included in the partitioned graph, even unidentified anchor nodes and, certainly, anchor nodes are not omitted. Thus, the result of Ibe et al. is a partitioned graph with weighted nodes (including anchor nodes) connected either by standard or by strong links or edges and, the partition is balanced "as a function of the weight of each node in a respective partition." col. 2, lines 42 – 43.

This is quite different from the claimed invention. As claim 1 recites, in a communication graph formed according to the present invention, edges represent "communication between connected nodes and" the **edges** are "weighted proportional to communication between connected nodes" at lines 5 – 6. Dominant edges are identified in the communication graph from the weighted edges, claim 1, line 7. Then, "a min cut solution (is determined) for said communication graph, dominant edges being excluded

from determined min cut solutions." See claim 1, lines 8 – 9. Clearly, the weighted edges, not the nodes, are being cut in the min cut solution.

Furthermore, categorizing edges as standard, weak or strong does not teach or suggest weighting edges or links, much less, "determining a min cut solution for said communication graph, dominant edges being excluded from determined min cut solutions" as recited in claim 1, lines 8 – 9. Neither can the applicants find any mention or suggestion in Ibe et al. of dominant edges, much less an indication of how to find dominant edges in an edge weighted graph such that dominant edges are not present in the minimum cut. Thus, it is for very good reason that the Examiner did not find in Ibe et al., step (d) of claim 1 of "placing task components responsive to said min cut solutions." Accordingly, while Ibe et al. may well teach weighting nodes (to which edges attach) including anchor nodes (whether identified or not) and partitioning for balance based on that weighting, that is quite different from weighting edges and excluding dominant edges that connect two nodes together. Therefore, modification of Ibe et al. as suggested by the Examiner does not result in the present invention; and, Ibe et al. does not teach or suggest the present invention as claimed in claims 1 and 2. So, claims 1 and 2 are not unpatentable over Ibe et al. under 35 U.S.C. §103(a). Reconsideration and withdrawal of the rejection of claims 1and 2 over Ibe et al. under 35 U.S.C. §103(a) is respectfully solicited.

Concerning the rejection of claims 11 – 13 and 18 – 20 over Ibe et al. in combination with Blainey et al., Blainey does not add anything to Ibe et al. to result in or suggest the invention as claimed in claims 1 and 2, much less claims 11 – 13 and 18 – 20 depending therefrom. Therefore, claims 11 – 13 and 18 – 20 are not unpatentable over the combination of Ibe et al. and Blainey et al. under 35 U.S.C. §103(a). Reconsideration and withdrawal of the rejection of claims 11 – 13 and 18 – 20 over the combination of Ibe et al. and Blainey et al. under 35 U.S.C. §103(a) is respectfully solicited.

Accordingly, because Ibe et al., either alone, in combination with Blainey et al. or any reference of record does not result in the present invention, the present invention is

not obvious under 35 U.S.C. § 103(a). Reconsideration and withdrawal of the rejection of claims 1, 2, 11 – 13 and 18 – 20 under 35 U.S.C. § 103(a) over Ibe et al. alone and further in combination with Bailey et al. is respectfully solicited.

The applicants have considered the other references cited but not relied upon in the rejection and find them to be no more relevant than the references upon which this rejection is based.

The applicants thank the Examiner for efforts, both past and present, in examining the application. Believing the application to be in condition for allowance, the applicants respectfully request that the Examiner reconsider and withdraw the objection to claims 3 – 10, 14 – 17 and 21 – 25 and reconsider and withdraw the rejection of claims 1, 2, 11 – 13 and 18 – 20 under 35 U.S.C. §103(a) and allow the application to issue.

Should the Examiner believe anything further may be required, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below for a telephonic or personal interview to discuss any other changes.

Please charge any deficiencies in fees and credit any overpayment of fees to IBM Corporation Deposit Account No. 50-0510 and advise us accordingly.

Respectfully Submitted,

December 19, 2003
(Date)

Charles W. Peterson, Jr.
Registration No. 34,406

Customer No. 33233
Law Office of Charles W. Peterson, Jr.
P.O. Box 710627
Oak Hill, VA 20171
Telephone: (703) 481-0532
Facsimile: (703) 481-0585